

We Claim:

1. A method of making a golf ball having a core and outer cover and using first and second mold halves, comprising the steps of:

- 5 a) placing a first portion of polyurethane in a first cavity of the first mold half;
- b) allowing said first portion of polyurethane to partially cure to a selected state of gel in said first cavity;
- c) positioning said core within said first cavity while vertically and
- 10 laterally centering said core within said first cavity to mold said first portion of said polyurethane at said selected state of gel around said core;
- d) placing a second portion of polyurethane in a second cavity of the second mold half at a time subsequent to the placing of said first portion of polyurethane in said first cavity of said first mold half;
- 15 e) allowing said second portion of polyurethane to partially cure to the same selected state of gel as the first portion was when the core was moved into said first cavity of said first mold half;
- f) mating said first mold half, having the core and first portion of polyurethane against said second mold half when said second portion of said polyurethane
- 20 in said second cavity of the second mold half is at the same selected state of gel as the first portion was when the core was moved into said first cavity of said first mold half; and
- g) curing the polyurethane in the mated mold halves.

2. The method of claim 1 further comprising the step of encapsulating the core
25 with coating prior to placing the core in the first cavity.

3. The method of claim 2 wherein the step of encapsulating the core is comprised of dipping the core in a thermosetting latex bath.

4. The method of claim 1 further comprising inserting an alignment pin into an alignment aperture of the first mold half when the core is moved into the first cavity of the first mold half so the core is centered in the first mold cavity.

5 5. The method of claim 1 further comprising limiting movement of the core by stopping vertical movement at a predetermined height with a stop member.

6. The method of claim 1 further comprising:
a) aligning the first mold half with an alignment rail to position the first
10 mold half in a first direction; and
b) aligning the first mold half with a second member to position the first
mold half in a second direction perpendicular to the first direction.

7. The method of claim 1 further comprising preheating the mold halves to
15 140°-180°F.

8. The method of claim 1 further comprising mixing a prepolymer and a
curative to form the polyurethane.

20 9. The method of claim 8 further comprising preheating the prepolymer and
curative to 140°-160°F.

10. The method of claim 8 wherein the prepolymer and curative are mixed for
about 4-7 seconds.

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11. The method of claim 1 wherein the step of allowing the first portion of
polyurethane to partially cure to a selected state of gel comprises allowing the polyurethane
to reside in the first cavity of the first mold half for about 50 to 80 seconds.

30 12. A method of making a golf ball having a core and using first and second
mold members, comprising the steps of:

- a) placing a first portion of polyurethane in a first cavity of the first mold member;
- b) curing the first portion in the first cavity for a selected amount of time to a selected state of gel;
- 5 c) positioning said core within said first cavity while vertically and laterally centering said core within said first cavity to mold said first portion of said polyurethane at said selected state of gel around said core;
- d) placing a second portion of polyurethane in a second cavity of the second mold member at a time subsequent to the placing of said first portion of
- 10 polyurethane in said first cavity of said first mold member;
- e) curing the second portion in said second cavity for said selected amount of time to said selected state of gel;
- f) mating said first mold member, having the core and first portion of polyurethane against said second mold member when said second portion of said
- 15 polyurethane in said second cavity of the second mold member is at the same selected state of gel as the first portion was when the core was moved into said first cavity of said first mold member; and
- g) curing the polyurethane in the mated mold members.

20 13. The method of claim 12 wherein the step of curing the first portion of polyurethane for a selected amount of time is about 50 to 80 seconds.

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